a processor operatively linked to said spectrometer and containing algorithms and reference data for determining values for parameters associated with actively metabolizing cells of inflamed atherosclerotic plaque.

37. (New) A method of detecting vulnerable atherosclerotic plaque in which a chemical or biochemical component of plaque is measured, comprising:

measuring analytes associated with activated macrophages; and identifying the vulnerable atherosclerotic plaque based upon the location of said analytes.

- 38. (New) The method of claim 37 further comprising measuring said analytes by using visible and near-infrared spetroscopy.
- 39. (New) A method of differentiating atherosclerotic plaque at risk of rupturing, comprising:

identifying sites containing indicia of highly metabolically active cells; and differentiating the vulnerable atherosclerotic plaque based upon the location of said highly metabolically active cells.

## <u>REMARKS</u>

Claims 1-35 are pending in the application. Applicant has added new claims 36-39 and no new matter has been added.

It is submitted that all of the pending claims are in condition for allowance and allowance of claims 1-39 is earnestly solicited.

Respectfully submitted,

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